

**Notice of Allowability**

Application No.

10/775,749

Examiner

HUNG Q. PHAM

Applicant(s)

PELTONEN ET AL.

Art Unit

2159

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08/26/2009.
2. ☒ The allowed claim(s) is/are 1-3,5,7,9,10,23-27,29 and 31.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of the:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
Identifying Indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 20091210.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

/HUNG Q. PHAM/  
Primary Examiner, Art Unit 2159

HUNG Q. PHAM  
Primary Examiner  
Art Unit: 2159

### EXAMINER'S AMENDMENT

- An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

- Authorization for this examiner's amendment was given in a telephone interview with applicant's representative, RYAN T. GRACE, on 12/11/2009.

### AMENDMENT TO THE CLAIMS

The listing of claims as below replaces listing in the CLAIMS that was filed by applicant on 08/26/2009.

1. (Currently Amended) A method for facilitating full text searching of a set of data, the method comprising:
  - obtaining keyword data corresponding to a set of data;
  - generating an inverted keyword index and a separate inverted keyword attribute index corresponding to the obtained keyword data, the generated inverted keyword attribute index including information from at least one category within a group consisting of language information, sentence information, ranking information, document timestamp information, and metadata information;
  - storing the inverted keyword index and the inverted keyword attribute index in a shared process memory, wherein storing the inverted keyword index includes ~~causing an indexing component of a computer~~ to dynamically ~~adjust~~ adjusting at least one memory pointer of the stored inverted keyword index to correspond to an address of a query processing component;
  - obtaining a keyword query from a first process; and
  - ~~causing a query processing component of the computer to process~~ processing the obtained keyword query by the query processing component, ~~the query processing component accesses~~ accessing the inverted keyword index and the inverted keyword attribute index stored in the shared process memory

via the at least one dynamically adjusted memory pointer of the stored inverted keyword index.

2. (Original) The method as recited in Claim 1, wherein the set of data corresponds to a set of documents.

3. (Original) The method as recited in Claim 1, wherein the set of data corresponds to a set of rows in a database.

4. (Cancelled).

5. (Currently Amended) The method as recited in Claim 1, wherein the generated inverted keyword attribute index corresponds to keyword occurrence information in the set of data.

6. (Cancelled).

7. (Currently Amended) The method as recited in Claim 1, wherein the generated inverted keyword index and the generated inverted keyword attribute index correspond to red and black index trees.

8. (Cancelled).

9. (Original) A computer-readable medium having computer-executable instructions for performing the method recited in Claim 1.

10. (Original) A computer system including a processor, a memory, and an operating environment, the computer system operable to perform the method recited in Claim 1.

11-22. (Cancelled)

23. (Currently amended) A system for facilitating full text searching, the system comprising:

a computer processor;

one or more processes ~~executable~~ executed by the processor for issuing keyword queries;

an index generation component for obtaining a set of data and generating an inverted keyword index and a separate inverted keyword attribute index corresponding to the obtained set of data, the

generated inverted keyword attribute index including information from at least one category within a group consisting of language information, sentence information, ranking information, document timestamp information, and metadata information;

a shared memory buffer for storing the generated inverted keyword index and the generated inverted keyword attribute index ~~of a set of data~~, wherein storing the inverted keyword index includes causing an index generation component to dynamically adjust at least one memory pointer of the stored inverted keyword index to correspond to an address of a query processing component; and

[[a]] the query processing component ~~for processing processes~~ keyword queries issued by the executed one or more processes by accessing the inverted keyword index and the inverted keyword attribute index stored in the shared memory buffer via the at least one dynamically adjusted memory pointer of the stored inverted keyword index.

24. (Currently Amended) The system as recited in Claim 23, wherein the generated inverted keyword index corresponds to a set of documents.

25. (Previously Presented) The method system as recited in Claim 23, wherein the set of data corresponds to a set of rows in a database.

26. (Currently Amended) The system as recited in Claim 23, wherein the shared memory buffer includes the generated inverted keyword attribute index corresponding to each node in the inverted keyword index.

27. (Currently Amended) The system as recited in Claim 26, wherein the generated inverted keyword attribute index corresponds to keyword occurrence information in the set of data.

28. (Cancelled).

29. (Currently Amended) The system as recited in Claim 26, wherein the generated inverted keyword index and the generated inverted keyword attribute index are red and black index trees.

30. (Cancelled).

31. (Currently Amended) The system as recited in Claim 23 further comprising:

a disk subsystem for storing at least a portion of the generated inverted keyword index of a set of data; and

a merge process for merging the inverted keyword index in the shared memory with ~~the~~ at least the portion of the inverted keyword index in the disk subsystem.

### **REASONS FOR ALLOWANCE**

- The following is an examiner's statement of reasons for allowance:

Prior arts of record do not render obvious, nor anticipate the combination of claimed elements including the technique of *processing the obtained keyword query by the query processing component, the query processing component accesses the inverted keyword index and the inverted keyword attribute index stored in the shared process memory via the at least one dynamically adjusted memory pointer of the stored inverted keyword index* as recited in claims 1 and 23. Thus, claims 1 and 23 are allowed. Dependent claims 2, 3, 5, 7, 9, 10, 2424-27, 29, 31 are allowed at least by virtue of their dependencies from claims 20 and 35.

- Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **CONTACT INFORMATION**

- Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q. PHAM whose telephone number is 571-272-4040. The examiner can normally be reached on Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JAMES K. TRUJILLO can be reached on 571-272-3677. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

- Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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December 12, 2009